

Forage Facts



Published by the Peace Country Beef & Forage Association

October 2021, Volume 17, Issue 201

In This Issue:

- pg. 1 - **Body Condition Management**
- pg. 2 - **Meet Our New Research Associate**
- pg. 4 - **Upcoming Events**
- pg. 7- **Nitrates in Feed: When to Test**
- pg. 8 - **Member Information**

DID YOU KNOW?

Canadian beef has one of the lowest GHG footprints per head in the world at 12 kg CO₂ equivalent per kg of live weight, which is less than half the world average, and only accounts for 3.2% of the Canada's total green house gas footprint.

Body Condition Management and Herd Health

By Johanna Murray

Herd health is a complicated subject; just like any other animal, a cow's immune system is only as healthy as the rest of her. Vaccines, isolation of new and sick animals, clean fields and pens, and preventing contact with wildlife, other herds, and off-farm pets are all excellent practices, but if your cow herd isn't healthy to begin with, it's going to be a lot tougher to keep them healthy going forward.

One of the tried and tested ways of measuring your herd's general health is Body Condition Scoring.

How to Body Condition Score

Body Condition scoring is a common method of evaluating the amount of "condition" or flesh on an animal. There are two commonly used scales used for body condition, the US scale, which runs from 1 - 10 and doesn't contain decimals, and the Canadian system, which runs from 1-5 and uses half points as a stepping stone. As in the graphic in the top corner of this page, from the Beef Cattle Research Council, ideal-

BODY CONDITION SCORE SYSTEM	
Canada	American (U.S.A)
UNDERCONDITIONED/THIN	
1	1
1.5	2
2	3
RIGHT CONDITION / OPTIMUM	
2.5	4
3	5
3.5	6
OVERCONDITIONED/FAT	
4	7
4.5	8
5	9

ly, a cow should be in the 2.5 - 3.5 region to be considered in optimum condition.

The main draw of Body Condition scoring is that it is an inexpensive, quick way of assessing the general status of an individual animal or the herd at large.

At a glance, you can probably tell what ball park your animals fall into; Gaunt animals with their bone structure easily visible are under conditioned, while animals that look blocky or are starting to have

--Continued on Page 3--



Meet PCBFA's New Research Associate, Blasius Azuhnwi



Blasius Azuhnwi is a Livestock Scientist with rich knowledge and practical expertise of over two decades in livestock research, teaching, consultancy and sustainable livestock production. He holds a PhD in Agricultural Sciences (Tannins in Forages) from the Federal Institute of Technology (ETH) in Zurich, Switzerland

and was originally trained as a veterinarian.

Fresh from vet school in Nigeria, he worked as an extension veterinarian with the Ministry of Livestock in his native country, Cameroon, before taking up post graduate studies in Europe. After his PhD, he worked with the Swiss Federal Animal Research Station (AGROSCOPE) as a Research Associate, and later as a post-doc and researcher in Toulouse, France with the French National Agronomic Research Institute (INRA). Before immigrating to Canada two years ago, he worked as a consultant in Africa with international livestock organizations such as the International Livestock Research Institute (ILRI) and the FAO and also as an adjunct professor in animal sciences with universities in Cameroon. He has authored and co-authored several research works in peer reviewed journals and farmer oriented journals, as well as policy briefs.

Blasius presently lives in Toronto with his wife,

son, and two daughters and works with the CFIA as a meat inspector. He loves watching and listening to documentaries, playing soccer and volleyball, and following his favorite Premier League team Liverpool FC over the TV with his son on 'match days'.

He looks forward to this exciting and challenging role in Applied Research with PCBFA and hopes to gain from it hands-on experience with Canadian agriculture, and also take time off to enjoy the scenic beauty of the Canadian Prairies.

Blasius will be joining the PCBFA Team in Fairview on Monday, October 4th. He will be hitting the ground running with Akim and Buthaina, who will be introducing him to producers and integrating him into our Research Team. We welcome everyone to our upcoming Corn Tour near Fairview on Thursday, October 7th to meet Blasius!

KEDDIE'S
TACK & WESTERN WEAR
Serving the Feed Industry for 50 years!

WE OFFER:

- Feed analysis and feeding programs
- Locally made custom mineral and feed blends
- Liquid supplements and range pellets

Custom Blends: Our nutritionists can design a feed program that will work specifically for you and your needs!

We are the *only* mineral manufacturing plant in the Peace Country

780-532-4888 • keddies.com
9808 132 Ave, Grande Prairie, AB

Body Condition Management



a trough along the top of their spine are over-conditioned. However, a hands-on approach is ideal for a more accurate assessment, checking key areas like the short-ribs, spine, and tailhead for fat coverage. Ideally, it should take some pressure to feel the bone structure in these areas, but you should still distinguish individual bones.

And it's important to consider what the body score is telling you, is one cow under conditioned because she was short of grass over the summer, or because she has a chronic lung infection? Is that fat cow over-conditioned because she's an efficient grazer, or because she didn't bring a calf home? In other words, the key to managing your herd based on body condition scoring is context. (<https://www.beefresearch.ca/research/body-condition-scoring.cfm>)

Production and Herd Health Impacts of Body Condition Score

Body Condition score can give you a heads up about a host of health issues you could run into with your herd. Cows that are too thin or too fat are more likely to have trouble calving, and calves that experience a difficult birth are more prone to disease and other health issues.

The ideal BCS can vary throughout the year. A 2.5 - 3.0 score is ideal at calving time, while a 3.0 to 3.5 is better at breeding, and a 3.5 is closer to what you're looking for in the fall. Cows that stay in the ideal range are more likely to resist parasites and other diseases, while thin animals are often already compromised and are more likely to get sick. On the other hand, very fat cows are more susceptible to metabolic issues, like fatty liver syndrome.

The consequences of low BCS or thin cattle is perhaps the most well documented. According to an Alberta Agriculture fact sheet, a cow with a body condition score less than 2.0 at calving, or one that loses condition after calving can bring in

a calf with an adjusted 205-day weight 5-25% lighter than calves off cows in better condition. Not to mention that thin cows also produce fewer immunoglobulins in their colostrum than their better-conditioned herd mates. Lack of immunoglobulins lowers immunity in very young calves, predisposing them to more disease than calves who receive adequate colostrum. Over-conditioned cattle can also cause trouble with milk production since very fat cows often have fat deposits in their udder area, reducing milk production.

(<https://open.alberta.ca/publications/2392247>)

The impacts of poor body condition score are not limited to one year either; cows with a body condition score of 2 or less, even if they gain condition after calving, will start cycling 2-8 weeks late. This delay means the cows will be bred later, and they'll lose anywhere between 15% and 70% of next year's 205 day weaning weight.

Economics and Management of Body Condition Scoring

So now that we've gotten through all the depressing numbers, how do you manage cattle based on BCS?

The cheapest way to improve body condition score is, of course, on pasture, but the next best time will be in the first/second trimester when the cow is no longer milking, and the fetus is not growing particularly fast.

If your cattle are thin, they'll need about 1900Mcal of digestible energy fed throughout the winter to gain one body condition score. This is over and above the digestible energy, she requires to maintain herself and grow the calf. Programs like Cowbytes can calculate roughly how long a cow will take to gain or lose body condition on specific diets, and nutritionists should be able to help you calculate this as well.

--Continued on Page 6--



Mark Your Calendar!

Event	Date & Time	Location
Corn for Forage Demonstration & Tour	Thursday, October 7th 1-3pm	Meet South of Fairview on Hwy 2 near Twp Rd 804
Beef Nutrition 101 Series: What Do Minerals Do?	Tuesday, October 12th 7-8pm	Online via Zoom
Ration Balancing Webinar with Barry Yaremcio	Tuesday, October 19th 7-8pm	Online via Zoom
Feed Storage & Wildlife Management Workshops	First Week of November	Various Locations

For More Information, or to Register for any of these Events, please visit or contact:

peacecountrybeef.ca | info@pcbfa.ca | 780-523-4033

If you have any event or speaker ideas - Please call Johanna at 780-523-4033 or email johanna@pcbfa.ca

Upcoming Events



BeefSmart
CONSULTING INC.

PCBFA & Beef Smart Consulting present:

Beef Nutrition 101

Webinar Series



- Sept 21, 12pm How to Feed Test
- Sept 28, 7pm Supplementation 101
- Oct 12, 7pm What Do Minerals Do?

Get your nutrition questions answered, in this free webinar series.

Webinar Recordings will be made available to registrants and members after the event.

For webinar links, or for more information:
peacecountrybeef.ca | 780 523 4033



Corn Forage Demo & Tour

Thursday, October 7th
1 pm

Registration is free

Masks are mandatory & will be provided
Corn for grazing, production methods, and 2021 variety performance

Meet at plot site south of Fairview on HWY 2, just north of TWP 804 - watch for signs

Please pre-register at:
peacecountrybeef.ca | 780 523 4033 | info@pcbfa.ca

Thanks to:
Corteva, Pride Seeds, Bayer



Thank You to Our Municipal Partners!



NORTHERN SUNRISE
COUNTY



If your cattle come in fat off pasture, they will be able to cope with lower quality feed, sometimes without losing significant condition themselves. However, it's important to remember that converting energy into fat and back again is inefficient; losing one BCS only grants about 900 Mcal of digestible energy.

If you have a range of body condition scores in your herd, sorting them into two or three management groups can help you use your feed more efficiently. For example, by feeding the animals who need to gain condition up to calving in one group, moderate animals in a second group, and over-conditioned animals in a third group, you can use three separate rations and make better use of your feed.

To illustrate this theory, researchers at the University of Alberta did a study on this management style from 1997 to 2000. The thin cows had an average BCS of 2.3, moderate cows had an average BCS of 3.01, and the fat cattle had an average score of 3.64. Each group was fed with the end goal of reaching 3.0 BCS.

Using the numbers and average rations from this

study, we can figure that the cost of one body condition score is around \$82 per cow for 115 days of feeding. This means that it costs roughly \$82 more to feed thin cows over fat cows. Using the same calculation, comparing thin cows to moderate cows, it costs about \$51 more to feed a thin cow than a cow you can feed a maintenance diet.*

*Based on estimated feed prices in September 2021 for average silage, straw, and barley grain rations. If you're interested in the calculations used here, give Johanna a call.

And while using different management groups can be more work (a fact that may counteract cost savings depending on your system), consider that management groups can also mitigate herd dynamics. If the old, fat boss cow can bully all the thinner, younger animals away from the feed, she'll stay fat, and the thin cows will stay thin. It's also crucial to remember that while animals with higher body condition scores have higher cold tolerance, low temperatures, bad weather, and windchill will affect cattle feed intake and energy requirements regardless of BCS.

(<https://open.alberta.ca/publications/2817858>)

Conclusion

While it's no substitute for a solid herd health plan and a good vet, integrating body condition score into your herd management can reduce disease risk on your operation. Managing your body condition score can improve calf health, reduce feeding costs and improve weaning weights. It also provides a frame of reference to watch your animals through the winter and make adjustments as needed.

When it comes to the cowherd, disease risk can certainly seem like an uncontrollable factor.

Table 1. Physical Summary (3-year averages)

	Thin	Moderate	Fat
Start BCS	2.30	3.01	3.64
End BCS	3.00	3.13	3.38
Change	+0.70	+0.12	-0.26
Start weight	1196	1289	1379
End weight	1363	1403	1455
Change (ADG)	+167 (1.46)	+114 (1.00)	+76 (0.68)
Start backfat (mm)	2.37	4.00	7.13
End backfat (mm)	6.13	4.90	7.00
Change	+3.76	+0.90	-0.13

Nitrates: When to Test & How to Feed



By Katie McLachlan

If 2021 hasn't already been a tough enough year to scrounge up enough feed to get the cows through the winter, I'm going to throw you another thing to watch out for - Nitrates.

Why the Concern?

We all know that nitrates are a risk when grazing or cutting annual forage such as oats, barley or canola while it is still green after a frost. But did you know that excess nitrates accumulate in plants when they are stressed? In addition to frost, nitrates can accumulate after a hail storm, or during a severe drought and dry, persistent winds. Two of the four listed above were very prevalent this year. This concern is doubled if the crop had lots of nitrogen in the form of fertilizer or manure pushing it.

If you are concerned about nitrate accumulation in standing or harvested annual forages such as oats, barley, wheat, canola, rye, or millet - it is recommended that you get a feed test done prior to feeding it or turning cows out to graze. Information on testing cost and shipping can be found on Page 8. It is important to note that perennial forages generally do not pose a nitrate risk.

Can Nitrate Damaged Crops be Fed?

Cattle are the most susceptible animal to nitrate poisoning. This is due to the process that the rumen microbes need to do to convert nitrates to nitrites, then convert nitrites to ammonia, which can then be properly utilized by the rumen microbes. An animal in good body condition that receives a properly balanced ration is able to complete the nitrate conversion more efficiently than an animal that is inadequately fed or in poor condition. Animals in poor condition, even if well fed, have more trouble converting nitrates to usable ammonia.

With this in mind, cattle can adjust to digest feed with nitrate concentrations. It takes three to seven days for the microbes to adjust to high nitrate

RELEASE THE HERD.

The list of tasks to do is long. The equipment you use to run down that list is critical. Run with mowers, compact utility tractors and utility vehicles from John Deere. And never stop running.



JOHN DEERE

PRAIRIECOAST
equipment

1-877-553-3373 • www.prairiecoastequipment.com

GRANDE PRAIRIE 780-532-8402 | FAIRVIEW 780-835-4440

LA CRETE 780-928-3337 | DAWSON CREEK 250-782-4141

rumen conditions, and once adjusted, the conversion of nitrate to ammonia increases in capacity by three to five times.

Be sure animals are well fed and in good condition before being introduced to the damaged crop. If grazing, let animals eat from half an hour to an hour, and then remove them from the area. The idea is to slowly get the animals accustomed to the crop, so they can become less affected by the nitrate present. Eventually, the animals can be left on the pasture full time. It will take five to seven days for the animals to become adjusted to the new feed. If feeding greenfeed or silage, the same principle applies. Ensure that the damaged feed is only a small percentage of the ration, and slowly add more.

In summary, most feeds that contain nitrate can be fed to cattle if managed properly. Feed testing is essential in determining what forages are safe and how to mix different forages and grains to provide a safe ration. The costs of feed testing are considerably less than the loss of an animal. For information on safe nitrate levels, give us a call!



Member Information

Follow Us



[/peacecountrybeef](https://www.facebook.com/peacecountrybeef)



[@PCBFA](https://twitter.com/PCBFA)



[@peacecountrybeef](https://www.instagram.com/peacecountrybeef)



[Peace Country Beef & Forage Association](https://www.youtube.com/PeaceCountryBeef&ForageAssociation)



[peacecountrybeef.ca](https://www.peacecountrybeef.ca)

Member Feed Testing Service

PCBFA Members receive 2 free feed tests with their membership.

All feed tests are sent to Central Testing Labs in Winnipeg. Nutrients and minerals are tested by wet chemistry.

Nitrate, Mould, and Mycotoxin tests can be completed and will be invoiced at lab cost.

Feed Test Pricing:

Feed Tests for Members (after 2 free) - \$45/sample

Feed Tests for Non-Members - Billed at Lab Cost

Nitrate Testing - \$15/sample

Rush Shipping - \$50

Hay Probe Deposit for Non-Members - \$100

Feed Test Drop Off Sites:

Fairview Research Farm, County of Grande Prairie's Clairmont Office, MD of Greenview's Valleyview Office, Saddle Hills County Office, and the Lesser Slave Watershed Council Office in High Prairie

2021-22 Board of Directors

Chairman:

Allan McLachlan

Vice Chairman:

Michael Strebchuk

Treasurer:

Clay Armstrong

Secretary:

MacKay Ross

Directors:

Faron Steffen

Michael Gross

Kelvin Krahn

Dan Martin

Andrew Hale

Clint Ostrem

Get in Touch with Our Staff

Liisa Jeffrey

Executive Director

C: 780-394-7419

E: liisa@pcbfa.ca

Katie McLachlan

Interim Operations Manager

C: 780-772-0277

E: katie@pcbfa.ca

Johanna Murray

Extension Coordinator

C: 780-523-4033

E: johanna@pcbfa.ca

Dr. Akim Omokanye

Research Program Manager

C: 780-835-1112

E: akim@pcbfa.ca

Dr. Blasius Azuhnwi

Research Associate

P: 780-835-6799

E: blasius@pcbfa.ca

Buthaina Al-Maqtari

Research Technician Lead

C: 403-667-2219

E: buthaina@pcbfa.ca

PCBFA is a
Proud Member of

FarmRite



AFIN
ALBERTA FORAGE
INDUSTRY NETWORK